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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/721,939	11/25/2003	Sudhakar Mamillapalli	34053	8314
26327	7590	05/27/2005	EXAMINER	
THE LAW OFFICE OF KIRK D. WILLIAMS 1234 S. OGDEN ST. DENVER, CO 80210			NGO, NGUYEN HOANG	
			ART UNIT	PAPER NUMBER
			2663	

DATE MAILED: 05/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/721,939

Applicant(s)

SUDHAKAR MAMILLAPALLI

Examiner

Nguyen Ngo

Art Unit

2663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-14,17-24 and 27-32 is/are rejected.
- 7) ☒ Claim(s) 3,4,15,16,25,26 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Objections***

1. Claims 5, 11, 12, 17, and 27 are objected to because of the following informalities:

**As for claim 5:** The “nodes to acknowledge the message indicates less than all of the plurality of nodes” in line 20 should be - nodes to acknowledge the message is less than all of the plurality of nodes -.

The Examiner believes that there might be a typographical error.

**As for claim 11:** The “multicast message in response the indication identifying to delay” in line 20 should be - multicast message in response to the indication identifying to delay -.

The Examiner believes that there might be a typographical error.

**As for claim 12:** The “multicast message in response the indication identifying to delay” in line 20 should be - multicast message in response to the indication identifying to delay -.

The Examiner believes that there might be a typographical error.

**As for claim 17:** The “nodes to acknowledge the message indicates less than all of the plurality of nodes” in line 20 should be - nodes to acknowledge the message is less than all of the plurality of nodes -.

The Examiner believes that there might be a typographical error.

**As for claim 27:** The “nodes to acknowledge the message indicates less than all of the plurality of nodes” in line 20 should be - nodes to acknowledge the message is less than all of the plurality of nodes -.

The Examiner believes that there might be a typographical error.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 5, 7, 9, 10, 11, 12, 13, 14, 17, 19, 21, 22, 23, 24, 27, 29, 31, and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Lo et al. (U.S Patent No. 6,122,483), hereinafter referred to as Lo.

**Regarding claim 1**, Lo discloses a method comprising of a NCC which can transmit multicast messages to a select group of subscriber units and to receive an acknowledge signal responses from the select group of subscriber units (identifying one or more of a plurality of nodes to acknowledge a multicast message, col4 lines 21-24). Lo further discloses a specified group ID for the select group to be transmitted with the multicast message and that the specified units within the select group ID are operable to respond (sending the multicast message to the plurality of nodes, the multicast message including an indication of said one or more of the plurality of nodes to acknowledge the message, col4 lines 29-30 and col4 lines 38-44).

**Regarding claim 2**, Lo discloses the communication signal (multicast message) also includes a second portion that identifies whether the message is one that is for one subscriber unit or whether it is a multicast message for a group of subscriber units (multicast message includes an indication of whether to immediately acknowledge or delay acknowledgement of the multicast message, col5 lines 40-44) and that if the message is intended solely for a subscriber unit, the subscriber unit transmit an acknowledgement signal substantially immediately after the signal was received (immediately acknowledge, col6 lines 25-28). If, however, the message is a multicast page (multicast message for a group of subscriber units), the subscriber unit allows a random period to expire before transmitting the acknowledgement signal (delay acknowledge, col6 lines 30-32).

**Regarding claim 5**, Lo discloses that all the subscriber units receive the paging signal from satellite from the satellite. And that only subscriber units 106A, 106C, 106F and 106H include the group ID specified in the multicast paging signal and that the group of subscriber units having the specified group ID are referenced as the select group (the indication of said one or more of the plurality of nodes to acknowledge the message is less than all of the plurality of nodes, col4 lines 40-46).

**Regarding claim 7**, Lo discloses a method in which a specified group ID for a select group is to be transmitted with the multicast message and that the specified units within the select group ID are operable to respond (receiving a multicast message, the multicast message including an indication of at least one designated acknowledgement node, col4 lines 29-30 and col4 lines 38-44). Lo further discloses that the subscriber units process the received communication signal enough to determine whether the corresponding message is for it (identifying that the indication of at least one designated acknowledgement node includes the node, col5 lines 25-27 and col8 lines 34-47) receives an acknowledge signal responses from the select group of subscriber units (in response sending an acknowledgement message to the sender of the multicast message, col4 lines 20-24).

**Regarding claim 9**, Lo discloses the communication signal (multicast message) also includes a second portion that identifies whether the message is one that is for one subscriber unit or whether it is a multicast message for a group of subscriber units

(multicast message includes an indication of whether to immediately acknowledge or delay acknowledgement of the multicast message, col5 lines 40-44) and that if the message is intended solely for a subscriber unit, the subscriber unit transmit an acknowledgement signal substantially immediately after the signal was received (immediately acknowledge, col6 lines 25-28). If, however, the message is a multicast page (multicast message for a group of subscriber units), the subscriber unit allows a random period to expire before transmitting the acknowledgement signal (delay acknowledge, col6 lines 30-32).

**Regarding claim 10**, Lo discloses specific limitations as discussed in claim 9, more specifically, the indication whether to immediately acknowledge or delay acknowledgement of the multicast message. Lo further discloses that if the message is a multicast page and if the processing unit determines that the subscriber unit is within the select group for whom the message is intended, the processing unit takes steps to delay the transmission of an acknowledgement signal (corresponds to delay acknowledgement and the method comprising of delaying said sending the acknowledgement message, col6 lines 50-51).

**Regarding claim 11**, Lo discloses a method in which a specified group ID for a select group is to be transmitted with the multicast message and that the specified units within the select group ID are operable to respond (receiving a multicast message, col4 lines 29-30). Lo further discloses the communication signal (multicast message) also

includes a second portion that identifies whether the message is one that is for one subscriber unit or whether it is a multicast message for a group of subscriber units (multicast message includes an indication of whether to immediately acknowledge or delay acknowledgement of the multicast message, col5 lines 40-44) and that if the message is intended solely for a subscriber unit, the subscriber unit transmit an acknowledgement signal substantially immediately after the signal was received (immediately acknowledge, col6 lines 25-28). If, however, the message is a multicast page (multicast message for a group of subscriber units), the subscriber unit allows a random period to expire before transmitting the acknowledgement signal (delay acknowledge of the multicast message in response to the indication identifying to delay acknowledgement of the multicast message, col6 lines 30-32).

**Regarding claim 12,** Lo discloses all the limitations as discussed with claim 11. It is noted that claim 12 simply refers to the apparatus of the method stated in claim 11.

**Regarding claim 13,** Lo discloses all the limitations as discussed with claim 1. It is noted that claim 13 simply refers to the apparatus of the method stated in claim 1.

**Regarding claim 14,** Lo discloses all the limitations as discussed with claim 2. It is noted that claim 14 simply refers to the apparatus of the method stated in claim 2.



**Regarding claim 17**, Lo discloses all the limitations as discussed with claim 5. It is noted that claim 17 simply refers to the apparatus of the method stated in claim 5.

**Regarding claim 19**, Lo discloses all the limitations as discussed with claim 7. It is noted that claim 19 simply refers to the apparatus of the method stated in claim 7.

**Regarding claim 21**, Lo discloses all the limitations as discussed with claim 9. It is noted that claim 21 simply refers to the apparatus of the method stated in claim 9.

**Regarding claim 22**, Lo discloses all the limitations as discussed with claim 10. It is noted that claim 22 simply refers to the apparatus of the method stated in claim 10.

**Regarding claim 23**, Lo discloses all the limitations as discussed with claim 1. It is noted that claim 23 simply refers to the computer-readable medium of the method stated in claim 1.

**Regarding claim 24**, Lo discloses all the limitations as discussed with claim 2. It is noted that claim 24 simply refers to the computer-readable medium of the method stated in claim 2.

Art Unit: 2663

**Regarding claim 27**, Lo discloses all the limitations as discussed with claim 5. It is noted that claim 27 simply refers to the computer-readable medium of the method stated in claim 5.

**Regarding claim 29**, Lo discloses all the limitations as discussed with claim 7. It is noted that claim 27 simply refers to the computer-readable medium of the method stated in claim 7.

**Regarding claim 31**, Lo discloses all the limitations as discussed with claim 9. It is noted that claim 31 simply refers to the computer-readable medium of the method stated in claim 9.

**Regarding claim 32**, Lo discloses all the limitations as discussed with claim 10. It is noted that claim 32 simply refers to the computer-readable medium of the method stated in claim 10.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 6, 8, 18, 20, 28, and 30 are rejected under 35 U.S.C. 103(a) as being anticipated by Lo et al. (US 6,122,483), in view of Dunning et al. (US 6,760,307), hereinafter referred to as Lo and Dunning.

**Regarding claim 6**, Lo discloses all the limitations as discusses with claim 1 yet is silent in the specific limitation of identifying the multicast message and all previously sent messages as being acknowledged. Lo also discloses that in certain communication systems, acknowledgment would result in too many subscriber units attempting to respond to a network control center and would consume significant channel resources. Lo thus provides the motivation to minimize the consumption of valuable channel resources and reduce latency.

Dunning however discloses of a technique known as Go Back n ARQ that is well known in the art to a person skilled in the art. The Go Back n ARG using sequentially numbered packets in which several successive packets are sent up to the limit of the receive buffer, but without waiting for the return of the acknowledgement. The node then sends the request numbers (acknowledgement signal) to the transmitting node.

Art Unit: 2663

The effect of a given request number is to acknowledge all packets prior to the requested packet (identifying the multicast message and all previously sent messages as being acknowledged, col2 lines 5-28).

It will thus be obvious to a person skilled in the art to incorporate the method for distributing and acknowledging multicast messages disclosed by Lo with the Go Back n ARG protocol disclosed by Dunning, to minimize channel resources, and reduce latency and processing times related to acknowledging packets.

**Regarding claim 8**, Lo discloses all the limitations as discusses with claim 7 yet is silent in the specific limitation of having the acknowledgement message acknowledge at least one other message than the multicast message. Lo also discloses that in certain communication systems, acknowledgment would result in too many subscriber units attempting to respond to a network control center and would consume significant channel resources. Lo thus provides the motivation to minimize the consumption of valuable channel resources and reduce latency.

Dunning however discloses of a technique known as Go Back n ARQ that is well known in the art to a person skilled in the art. The Go Back n ARG using sequentially numbered packets in which several successive packets are sent up to the limit of the receive buffer, but without waiting for the return of the acknowledgement. The node then sends the request numbers (acknowledgement signal) to the transmitting node.

The effect of a given request number is to acknowledge all packets prior to the requested packet (acknowledgement message acknowledge at least one other message than the multicast message, col2 lines 5-28).

It will thus be obvious to a person skilled in the art to incorporate the method for distributing and acknowledging multicast messages disclosed by Lo with the Go Back n ARG protocol disclosed by Dunning, to minimize channel resources, and reduce latency and processing times related to acknowledging packets.

**Regarding claim 18**, Lo discloses all the limitations as discussed with claim 6. It is noted that claim 18 simply refers to the apparatus of the method stated in claim 6.

**Regarding claim 20**, Lo discloses all the limitations as discussed with claim 8. It is noted that claim 20 simply refers to the apparatus of the method stated in claim 8.

**Regarding claim 28**, Lo discloses all the limitations as discussed with claim 6. It is noted that claim 28 simply refers to the computer-readable medium of the method stated in claim 6.

Art Unit: 2663

**Regarding claim 30**, Lo discloses all the limitations as discussed with claim 8. It is noted that claim 30 simply refers to the computer-readable medium of the method stated in claim 8.

***Allowable Subject Matter***

7. Claims 3, 4, 15, 16, 25, and 26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. These claims are allowable due to the further limitations of indicating immediate acknowledgement if the multicast message is the first message of a message window and indicating delayed acknowledgement if the multicast message is not the first message of the messaging window.

***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a) Belair et al. (U.S 2004/0081149), Method And Apparatus For Providing Likely Updates to Views Of Group Members In Unstable Group Communication Systems.

- b) Blasiak et al. (U.S 2003/0076826), Reliably Transmitting A Frame To Multiple Destinations By Embedding Sequence Numbers in The Frame.
- c) Xu (U.S 2005/002365), Systems and Methods For Acknowledgement Of Multi-Cast Traffic.
- d) Igarashi et al. (U.S 2003/0223422), Packet Transmission Method And Communication System.
- e) Westmore (U.S 5,161,153), Synchronous Network.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nguyen Ngo whose telephone number is (571) 272-8398. The examiner can normally be reached on Monday-Friday 7am - 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


Art Unit: 2663

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

N.N.  
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**Nguyen Ngo**

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PATENT EXAMINER  
5/15/05